

Case 3353***Obovaria* Rafinesque, 1819 (Mollusca, Bivalvia): proposed conservation of usage by designation of *Unio retusa* Lamarck, 1819 as the type species of *Obovaria***

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Abstract. The purpose of this application, under Article 70.2 of the Code, is to conserve the current usage of the widely used name *Obovaria* Rafinesque, 1819 (freshwater bivalve from the eastern United States) by the designation of *Unio retusa* Lamarck, 1819 as the type species of *Obovaria*. The type species of *Obovaria* is at present *Obovaria obovalis* Rafinesque, 1820, which is an unused senior subjective synonym of *Unio ebenus* Lea, 1831 (currently *Fusconaia ebena*). The designation of *Obovaria obovalis* as the type species by Herrmannsen (1847) has never been adopted, and in current usage *Unio retusa* Lamarck, 1819 has universally been accepted as the type species of *Obovaria*. It is proposed that *Obovaria obovalis* Rafinesque, 1820 be suppressed.

Keywords. Nomenclature; taxonomy; Bivalvia; UNIONIDAE; *Obovaria*; *Fusconaia*; *Obovaria obovalis*; *Obovaria retusa*; *Obovaria torsa*; *Fusconaia ebena*; eastern United States; freshwater mussel.

1. Rafinesque (1819, p. 426) established the genus *Obovaria* for a freshwater bivalve and listed six species names (*O. obovalis*, *O. subrotunda*, *O. syntoxis*, *O. retusa*, *O. crassa* and *O. torsa*), all now considered nomina nuda. Rafinesque (1820, p. 311) described the genus *Obovaria* and included six described species: *O. obovalis* (p. 311), *O. torsa* (p. 311), *O. pachostea*, *O. striata*, *O. stegaria* and *O. cordata*, but did not designate a type species.

2. Herrmannsen (1847, p. 132) designated *Obovaria obovalis* Rafinesque, 1820 as the type species for the genus *Obovaria*.

3. *Obovaria obovalis* Rafinesque, 1820, considered as a nomen dubium from 1836 to 2006 by most authors (e.g. Lea, 1836, 1838, 1852, 1870; Simpson, 1900, 1914;

Burch, 1975), is a senior subjective synonym of *Unio ebenus* Lea, 1831 (p. 84). This synonymy was established by Vanatta (1915, p. 558), who listed and identified the Rafinesque specimens from the Poulson Collection housed in the Mollusk Collection of the Academy of Natural Sciences of Philadelphia. We have not found any usage of *Obovaria obovalis* as a valid name in the literature since the time it was designated the type species of *Obovaria* by Herrmannsen (1847). Vanatta (1915) clearly stated that he was not using the Rafinesque names, including *Obovaria obovalis*, as valid. Ortmann & Walker (1922, p. 44) stated that the species *O. obovalis* could not be recognized, but cited Vanatta (1915) as having recognized the so-called Rafinesque-Poulson type as *Unio ebenus* Lea, 1831. Frierson (1927), Haas (1969a) and Parmalee & Bogan (1998) erroneously listed *O. obovalis* as a junior synonym of *Obovaria pachostea* Rafinesque, 1820 and *Amblema antrosa* Rafinesque, 1820, which are presumed senior synonyms of *Unio ebenus* Lea, 1831. Johnson & Baker (1973, p. 163, pl. 4, fig. 1) designated a lectotype for *O. obovalis*, but this was done as a matter of curatorial routine and there is no evidence that Johnson & Baker intended to use the name *O. obovalis* as valid. The name *Unio obovalis* Rafinesque, 1820 was mentioned by Haas (1969a) as the type species of the nominal subgenus *Obovaria* but it is likely that he did not intend to use *Unio obovalis* Rafinesque, 1820 as valid.

4. We argue that stability is best served by continuing the long-established use of *Unio ebenus* Lea, 1831 (currently *Fusconaia ebena*) for a species that was originally named *Obovaria obovalis* by Rafinesque (1820). *Unio ebenus* has been used extensively in unionid literature for the past 170 years (e.g. Lea, 1836, 1838, 1852, 1870; Simpson, 1900, 1914; Haas, 1969a, b). It is not very certain whether the historic use of *Obovaria obovalis* meets Article 23.9.1.1 of the Code (Names not used as valid after 1899), because according to our records the name was used twice after 1899, although possibly not as valid. We choose to maintain the current use of *Fusconaia ebena* and, according to Article 23.9.2 of the Code (Prevailing usage), to use *U. ebenus* Lea, 1831 (nomen protectum) over *Obovaria obovalis* Rafinesque, 1820 (nomen oblitum). Considering that there is some uncertainty about the valid use of the name *Obovaria obovalis* Rafinesque, 1820 after 1899, we propose to formally suppress it.

5. Agassiz (1852, p. 46) selected *Obovaria torsa* Rafinesque, 1820 (a junior subjective synonym of *Unio retusa* Lamarck, 1819) as the type species of *Obovaria*. However, he was not very clear as to his preference between the names *Unio retusa* Lamarck, 1819 and *Obovaria torsa* Rafinesque, 1820. Although *Obovaria torsa* was among species originally included in *Obovaria* by Rafinesque (1820), this was not a valid subsequent type species designation (Article 69.1—Type species by subsequent designation) because it was preceded by a valid type species designation by Herrmannsen (1847), to which Agassiz (1852) made no reference. However, Agassiz's designation has become accepted and widely used in the literature. Fischer (1886) used *Obovaria* with the type species *Unio retusa* Lamarck, 1819 but made no mention of the designation of the type species of *Obovaria* by Agassiz (1852). Even in the absence of the earlier valid designation of the type species by Herrmannsen (1847) and a later designation by Agassiz (1852), this would be an invalid type species designation as *U. retusa* Lamarck, 1819 was not a name originally included in *Obovaria*, and no indication was made about the synonymy between *U. retusa* Lamarck and *Obovaria torsa* Rafinesque, 1820 (Article 69.2.2 of the Code—Type species not originally included in a genus). Simpson (1900, p. 599) was unsure about

the synonymy of *Obovaria torsa* Rafinesque, 1820 but listed the type species of *Obovaria* as *Unio retusa* Lamarck, 1819 and made no mention of the type species designations by Herrmannsen (1847), Agassiz (1852), or Fischer (1886). Ortmann (1912) followed Simpson (1900) by using *retusa* as the type species and provided detailed anatomical treatment of the species included in *Obovaria*. Simpson (1914) listed *U. retusa* Lamarck, 1819 as the type species of *Obovaria* and cited Ortmann (1912) but made no reference to Herrmannsen (1847), Agassiz (1852), or Fischer (1886). Haas (1969a, pp. 419, 420) recorded *Unio retusa* Lamarck, 1819 as the type species of the genus *Obovaria*, but gave *Unio obovalis* Rafinesque, 1820 as the type species of the nominal subgenus *Obovaria* (violation of Article 67.1.1 of the Code—A nominal genus and its nominotypical subgenus must have the same type species). Numerous authors have used *Obovaria* with the type species *U. retusa* since Simpson (1900), including Walker, 1918a, b; Frierson, 1927; Baker, 1928; Clench, 1959; Parmalee, 1967; Burch, 1973, 1975; Parmalee et al., 1980, 1982; Turgeon et al., 1988, 1998; Vaught, 1989; Ahlstedt, 1992; Haag & Warren, 1995; Hoggarth, 1999; Hughes & Parmalee, 1999; Millard, 2001 and others. The acceptance of *Obovaria obovalis* Rafinesque, 1820 as the type species of *Obovaria*, although in strict conformity with Article 67.2 of the Code (Species eligible for type fixation), would cause widespread confusion in the nomenclature since *Obovaria obovalis* Rafinesque, 1820 is an unused senior subjective synonym of *Unio ebenus* Lea, 1831 (currently *Fusconaia ebena*) and currently belongs to the genus *Fusconaia*. Species of *Obovaria* in the modern usage of this genus are included in major checklists and catalogues, such as the Federal Endangered Species List of the United States. Two standardized lists of the Mollusca of North America have used *Obovaria* in its modern sense (Turgeon et al., 1988, 1998), and McMahan & Bogan (2001) used *Obovaria* in this sense in an overview of the biology of the family. A list of a further 39 papers is held by the Commission Secretariat. We propose that *Unio retusa* Lamarck, 1819 (currently *Obovaria retusa*) (a senior subjective synonym of *Obovaria torsa* Rafinesque, 1820) is designated as the type species of *Obovaria*.

6. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous fixations of type species for the nominal genus *Obovaria* Rafinesque, 1819 and to designate *Unio retusa* Lamarck, 1819 as the type species;
- (2) to rule that the name *obovalis*, as published in the binomen *Obovaria obovalis* Rafinesque, 1820, is a nomen oblitum;
- (3) to place on the Official List of Generic Names in Zoology the name *Obovaria* Rafinesque, 1819 (gender: feminine), type species *Unio retusa* Lamarck, 1819, as ruled in (1) above;
- (4) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *retusa* Lamarck, 1819, as published in the binomen *Unio retusa* (specific name of the type species of *Obovaria* Rafinesque, 1819, as ruled in (1) above);
 - (b) *ebenus* Lea, 1831, as published in the binomen *Unio ebenus*;
- (5) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *obovalis* Rafinesque, 1820, as published in the binomen *Obovaria obovalis* (ruled in (2) above to be a nomen oblitum).

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